
Chapter 9 — ISDN BRI traffic reports

Introduction

This chapter describes the traffic reports that can be generated for ISDN BRI equipment. It describes and shows examples of each report.

Traffic report types

Option 11 generates and stores traffic statistics about ISDN BRI equipment. These statistics can be displayed on the administration terminal or printed on the administration printer. To set up and print traffic reports use Traffic Program LD 2.

The following ISDN BRI traffic reports can be generated:

- **TFS001 — Network traffic** shows ISDN BRI and non-ISDN BRI traffic on the card slots.
- **TFS011 — MISP/DSL traffic** shows ISDN BRI DSL traffic on the MISP cards.
- **TFS012 — MISP D-channel management messages** shows the management messages handled by each D-channel on the MISP cards
- **TFS013 — MISP messages** shows all the messages handled by the MISP cards
- **TFS014 — MISP messages for BRIT application** shows all messages handled by the BRIT application on MISP cards

Understanding Option 11 traffic reports

The Option 11 system is designed internally as a non-blocking system. It is always configured in a non-blocking concentration, having an internal superloop for every four IPE card slots. Traffic measurements for IPE cards (XDLC, XUT, DTR) are provided in groups of four line cards corresponding to the internal superloops as follows:

CARD SLOT	SUPER LOOP	CARD SLOT	SUPER LOOP	CARD SLOT	SUPER LOOP
1	0	11	8	21	32
2	0	12	8	22	32
3	0	13	12	23	32
4	0	14	12	24	32
5	4	15	12	25	36
6	4	16	12	26	36
7	4	17	16	27	36
8	4	18	16	28	36
9	8	19	16	29	40
10	8	20	16	30	40

Traffic measurements for network level cards configured in LD 17 (such as DTI, PRI, DTI2, PRI2, TDS) are assigned internally to a set of loops separate from the superloops assigned to the IPE cards. They are as follows:

:

CARD SLOT	SUPER LOOP
1	20
2	21
3	22
4	23
5	24
6	25
7	26
8	27
9	28

Traffic measurements for the three conference circuits on the system core card are reported under loops 29, 30 and 31.

Network traffic report

The Network traffic report shows the traffic activities for the Option 11 lines and trunks including ISDN BRI DSLs. It is used to determine system peak traffic requirements and traffic load distribution. It contains the following columns of information:

- 1 Loop number
- 2 Card type, which can be a DSL, terminal, conference, or TDS
- 3 Number of call attempts that failed to match the channel call type
- 4 Traffic load on the card

- 5 Number of call attempts over the card
- 6 Total number of call attempts that failed to match for all terminals on the card
- 7 Total traffic load on the card
- 8 Total number of calls handled by all the terminals on the card
- 9 The letter S indicates a superloop

Note: Superloops exist in multiples of four (4, 8, 12, 16 and so on). For example, if superloop 4 exists, loops 5, 6 and 7 do not.

The following is an example of the Network traffic report. The number above each column coincides to a number from 1 to 9 above, which describe the function of each column. These numbers indicate the loop call activity and success rate. If columns 3 and 6 show high numbers there may be a problem in handling calls indicating possible faulty loops or other peripheral equipment. Actually the report header does not contain column numbers or titles, however the numbers from 1 to 9 are shown here to describe what each column represents.

0222 TFS001

1	2	3	4	5	6	7	8	9
000	TERM	00000	0000000	00000	00000	0000002	00001	S
004	TERM	00000	0000000	00000	00000	0000000	00000	S
008	TERM	00000	0000000	00000	00000	0000011	00001	S
012	TERM	00000	0000000	00000	00000	0000002	00006	S
016	TERM	00000	0000000	00000	00000	0000000	00000	S
020	TDMF	00000	0000000	00000	00000	0000001	00059	
022	TERM	00000	0000001	00005	00000	0000017	00019	
024	TERM	00000	0000000	00000	00000	0000007	00006	
025	TERM	00000	0000000	00000	00000	0000000	00001	
026	TERM	00000	0000000	00000	00000	0000000	00000	
027	TERM	00000	0000000	00000	00000	0000007	00006	
029	CONF	00000	0000000	00000	00000	0000000	00027	
030	CONF	00000	0000000	00000	00000	0000000	00027	
031	CONF	00000	0000000	00000	00000	0000000	00030	

MISP/DSL traffic report

The MISP/DSL traffic report shows the call processing activities of all DSLs associated with each MISP in the system. It contains the following columns of information for each MISP in the system:

- 1 Number of attempted calls, which include all the successfully completed calls and the attempted calls that have not been completed
- 2 Number of successfully completed calls for the reported period
- 3 Average length of a call, which shows an average duration of a successfully completed call in seconds
- 4 Number of signaling messages sent by the MISP to the terminals on the D-channels
- 5 Number of signaling messages sent by the terminals to the MISP on the D-channels
- 6 Number of D-channel data packets sent by the MISP to the terminals
- 7 Number of D-channel data packets sent by the terminals to the MISP

The following is an example of the MISP/DSL traffic report where numbers 1 to 7 correspond to the column descriptions from 1 to 7above.

0222 TFS011
 MISP002

1	2	3	4	5	6	7
00000	00000	00000	02397	02398	00000	00000

MISP D-channel management messages report

The MISP D-channel management messages report contains the traffic management activity for each DSL based on the exchange of signaling messages between the MISP and the terminals over the D-channels. It is used by the maintenance technician to see if there are any communication problems between the MISP and the terminals. It contains the following columns of information for each MISP in the system:

- 1** Number of MISP-initiated link initializations
- 2** Number of terminal-initiated link initializations
- 3** Number of management messages sent from the MISP to terminals
- 4** Number of management messages sent from terminals to the MISP
- 5** Number of times the links associated with D-channels were not able to complete calls
- 6** Number of management data link errors

The following is an example of the MISP D-channel management messages report where numbers 1 to 6 correspond to the column descriptions from 1 to 6 above.

0222 TFS012
MISP002

1	2	3	4	5	6
00000	00000	03828	03827	00000	00000

MISP messages report

The MISP messages report shows the total number of call processing, maintenance, and management messages sent through each MISP in the system. The totals are grouped according to the size of the message. It is used by the maintenance technician to determine if these messages are within the specified lengths. The report contains the following columns of information for each MISP in the system:

- 1 Total number of messages that are from 1 to 10 bytes long
- 2 Total number of messages that are from 11 to 20 bytes long
- 3 Total number of messages that are over 20 bytes long

The following is an example of the MISP messages report where numbers 1 to 3 correspond to the column descriptions from 1 to 3 above.

```

0222 TFS013
MISP002

1          2          3
00002     00000     00000
  
```


MISP messages for BRIT application

The MISP messages for BRIT application report shows the total number of maintenance, administration and protocol messages received and transmitted as well as protocol errors and D-channel failures. The report contains the following columns of information for each MISP in the system:

- 1** Total number of maintenance messages transmitted
- 2** Total number of maintenance messages received
- 3** Total number of administration messages transmitted
- 4** Total number of administration messages received
- 5** Total number of protocol messages transmitted
- 6** Total number of protocol messages received
- 7** Total number of L3 protocol errors.
- 8** Total number of L2 protocol errors.
- 9** Total number of L1 errors.
- 10** Total number of times D-channel went down.

The following is an example of the MISP messages for BRIT application report where numbers 1 to 10 correspond to the column descriptions from 1 to 10 above.

0111 TFS014
MISP002

1	2	3	4	5	6	7
0000	0000	0000	0000	0000	0000	0000
8	9	10				
0000	0000	0000				

Generating traffic reports

The following describes how to print traffic reports to verify that the traffic generated during voice and data transmission testing has been stored by the system and can be printed on demand.

To print the last traffic report generated during acceptance testing, use the following command in LD 2:

INVC (CUSTOMER) (OPTIONS)

Note: Data accumulating for the next report is not accessible.

The parameters for this command are:

customer Number of the customers for which reports are to be generated. This must be a number from 0 to 31.

options Reports to be generated. This must be one or more of the following numbers:

Number	Meaning
1	Network traffic report
11	MISP/DSL traffic report
12	MISP D-channel messages report
13	MISP messages report

For example, to print or display MISP traffic and MISP messages reports for customer 29 on demand, you enter the information shown below.

INVC 29 11 13

To print or display traffic reports for the whole system, you enter the information shown below.

INVS

To verify ISDN BRI traffic generated during acceptance testing, select the network traffic report and the MISP traffic report as follows:

INVC (CUSTOMER) 1 11

The system printer should print these two reports, which you should check to make sure that the traffic generated during the test is reflected in the reports.

The network traffic report shows the traffic activities for Option 11 lines and trunks including ISDN BRI DSLs.